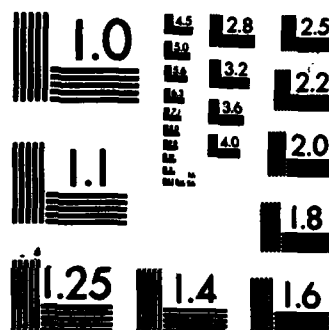


AD-A140 879 19321AT MLRS MISSILE NUMBER 5345 5348 5346 5349 5347 1/1
5350 ROUND NUMBER 56. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER 17 FEB 84
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AD-A140 879

METEOROLOGICAL DATA REPORT

19321AT MLRS

Missile Number 5345, 5348, 5346,
5349, 5347, 5350

Round Number 569/FB-12 Thru 574/FB-17
17 February 1984

by

DONALD C. KELLER

Program Support Coordinator

Phone Number (505) 679-9568

AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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1. REPORT NUMBER DR-1336	2. GOVT ACCESSION NO. AD A140 879	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19321AT MLRS Missile Number 5345, 5348, 5346, 5349, 5347, 5350 Round Number 569/FB-12 Thru 574/FB-17		5. TYPE OF REPORT & PERIOD COVERED
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18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <p>Meteorological data gathered for the launching of the 19321AT MLRS, Missile Number 5345, 5348, 5346, 5349, 5347, 5350, Round Number 569/FB-12 Thru 574/FB-17 are presented in tabular form.</p>		

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INTRODUCTION

19321 AT MLRS, Missile Numbers 5345, 5348, 5346, 5349, 5347 and 5350, Round Numbers 569/FB-12 Thru 574/FB-17, were launched from Tula Gate, White Sands Missile Range (WSMR), New Mexico, at 0917:04, 0917:08, 0917:13, 0917:17, 0917:22 and 0917:26 MST, 17 Feb 84. The scheduled launch times were 0900 MST with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the Tula Gate Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

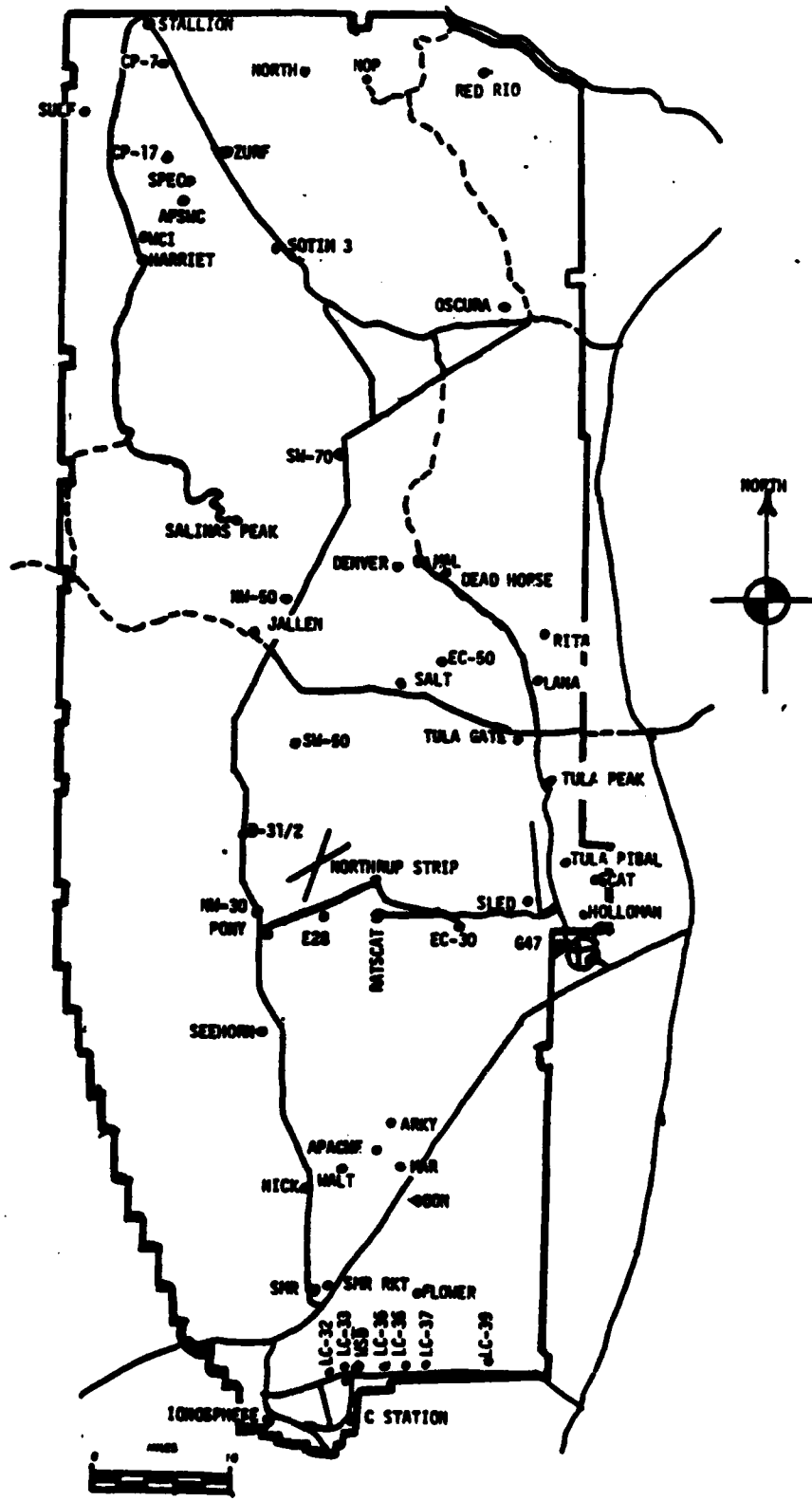
Tula Gate 950 Meters
Mal 2000 Meters

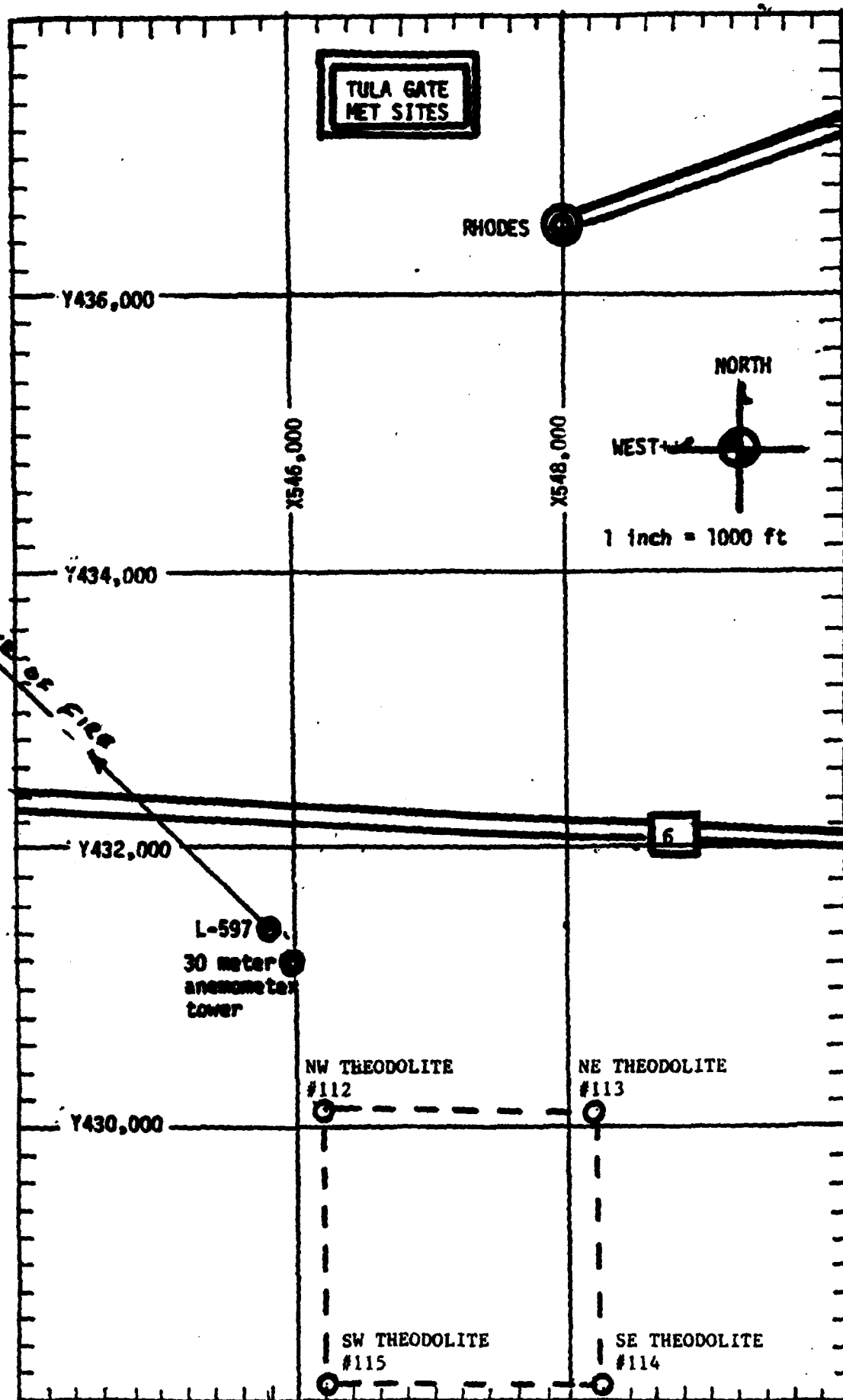
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

RITA 0715 MST
LANA 0730 MST
RITA 0917 MST
LANA 0917 MST

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1											
STATION: Tula Gate											
DATE 17		Feb		84		X= 545.944.89		Y= 431.158.70		H= 4102.47	
TIME		PRESSURE		TEMPERATURE		DEW POINT		RELATIVE HUMIDITY		WIND	
H S I		mbs		OF		OF		%		SPEED	
				OC		OC				kts	
										CHARACTER	
										kts	
										DIRECTION	
										deg	
										In	
										VISIBIL-ITY	
0917		864.2		15.2		7.1		32		11	
										190	
										40+	

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	AMT	TYPE	AMT	TYPE	

PSYCHROMETRIC COMPUTATION

TIME:	0917	
DRY BULB TEMP.	15.2	
WET BULB TEMP.	7.1	
WET BULB DEPR.	8.1	
DEW POINT	-1.4	
RELATIVE HUMID.	32	

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 17 Feb 1984

SITE: Tula Gate
TIME: 0917 MST
WSTM COORDINATES:
X= 545,944.58
Y= 531,158.70
H= 4,102.47

SITE: Mal
TIME 0919 MST
WSTM COORDINATES:
X= 509,421.05
Y= 497,563.78
H= 4,133.09

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	290	12
150	226	12
210	230	13
270	237	10
330	222	13
390	218	13
500	218	16
650	220	14
800	218	16
950	224	26
1150		
1350		
1550		
1750		
2000		

Data obtained from a Double Theodolite Tracked
pilot-balloon observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	200	10
150	165	21
210	165	24
270	170	26
330	170	28
390	170	29
500	175	29
650	170	28
800	175	31
950	170	36
1150	165	35
1350	165	39
1550	170	44
1750	175	52
2000	180	74

Data obtained from a Single Theodolite
Tracked pilot-balloon observation.

TABLE 3

AIMING AND T-TIME COMPUTER MET MESSAGES

17 February 1984

RITA 0715 MST

METCM1332062

171430128864

00302008	28290864
01319023	28360854
02355031	28420829
03368028	28180790
04376030	27740743
05407044	27320698
06409058	27030656
07413062	26750616
08422067	26490577
09421066	26060541
10425068	25590507
11426059	25170474
12426085	24590427

RITA 0917 MST

METCM1332062

171630128864

00320015	28790864
01401013	28640854
02392020	28400829
03395027	28080790
04373028	27700743
05383035	27250698
06403052	26890656
07416067	26790615
08421066	26480577
09432074	26030541
10419077	25580506
11424078	25200474
12432101	24740427

LANA 0730 MST

METCM1331062

171450127864

00320007	28280864
01324019	28390854
02347034	28470829
03369031	28210790
04380035	27780743
05398046	27360699
06406059	27040656
07408070	26770616
08414074	26560578
09417073	26100542
10418074	25660507
11424075	25240474
12423087	24620428

LANA 0917 MST

METCM1331062

171630127864

00373012	28780864
01353014	28630854
02379023	28360829
03393026	28020790
04383028	27600743
05388035	27210698
06398055	26890655
07412073	26710615
08420071	26420577
09420079	25970540
10418087	25520506
11419093	25160473
12429104	24590427

STATION ALTITUDE 4126.74 FEET PSL
17 FEB. 84
ASCENSION NO. 7

SIGNIFICANT LEVEL DATA
0480210007
PIYA

TABLE 4

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR	DEWPOINT	
	DEGREES CENTIGRADE		
564.3 4186.7	9.3	-9.7	25.0
550.0 4661.5	10.5	-12.1	19.0
518.5 5673.5	10.8	-11.2	20.0
509.0 9866.6	-3	-18.9	23.0
437.7 12298.3	-4.2	-24.9	18.0
424.7 12870.9	-5.2	-18.6	34.0
592.9 14173.4	-7.6	-24.6	24.0
564.1 14556.1	-7.3	-28.8	16.0
566.9 15318.5	-9.3	-31.1	15.0
500.0 18455.5	-18.3	-34.2	23.0
471.1 19906.7	-22.0	-33.9	33.0
458.2 20576.6	-23.5	-33.5	39.0
400.0 21795.5	-31.0	-43.8	27.0
391.4 24301.9	-31.7	-45.8	23.0
387.1 24558.5	-32.6	-47.0	22.0
357.5 26394.8	-37.3	-51.1	22.0
347.6 27022.7	-37.7	-51.8	21.0

GEODETIC COORDINATES
33.78295 LAT DEG
106.15114 LON DEG

STATION ALTITUDE 4136.74 FEET MSL
17 FEB. 84
ASCENSION NO. 7

UPPER AIR DATA
0480210007
PITA

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

TABLE 5

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GRAMS/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE			KNOTS	DEGREES(TN)	DIRECTION	SPEED KNOTS	
4186.7	864.3	9.3	-9.7	25.0	1064.6	655.2	170.0		8.0	1.000251
4500.0	854.4	10.1	-11.3	20.9	1049.5	656.1	184.8		10.8	1.000246
5000.0	838.9	10.6	-11.8	19.3	1028.8	656.6	196.3		16.2	1.000241
5500.0	823.7	10.7	-11.4	19.8	1009.6	656.8	202.0		21.8	1.000237
6000.0	808.6	9.9	-11.8	20.2	991.9	655.8	205.4		27.6	1.000233
6500.0	793.7	8.6	-12.7	20.6	980.2	654.3	206.0		28.7	1.000229
7000.0	779.0	7.3	-13.6	20.9	966.7	652.7	206.2		28.3	1.000226
7500.0	764.6	6.0	-14.5	21.3	953.4	651.2	207.8		28.9	1.000222
8000.0	750.5	4.6	-15.4	21.7	940.3	649.6	211.0		29.7	1.000219
8500.0	736.6	3.3	-16.3	22.0	927.4	648.0	216.5		30.9	1.000215
9000.0	723.0	2.0	-17.2	22.4	914.6	646.5	222.3		34.5	1.000212
9500.0	709.6	.7	-18.2	22.7	902.1	644.9	227.0		39.7	1.000208
10000.0	696.4	-5.5	-19.2	22.7	889.2	643.5	229.1		44.9	1.000205
11500.0	683.2	-1.3	-20.4	21.7	875.0	642.5	230.8		50.2	1.000201
11000.0	670.2	-2.1	-21.6	20.7	861.0	641.6	230.0		54.7	1.000197
11500.0	657.5	-2.9	-22.9	19.6	847.2	640.6	229.4		59.1	1.000194
12000.0	645.0	-3.7	-24.1	18.6	833.6	639.6	229.4		61.3	1.000190
12500.0	632.7	-4.6	-22.0	24.1	820.2	638.6	229.4		63.5	1.000188
13000.0	620.6	-5.5	-19.3	32.7	807.1	637.6	231.3		63.1	1.000187
13500.0	608.6	-6.4	-21.4	29.0	794.3	636.5	233.3		62.7	1.000183
14000.0	596.9	-7.3	-23.8	25.3	781.7	635.4	235.1		64.1	1.000179
14500.0	585.4	-7.3	-28.0	17.2	766.9	635.3	236.8		65.5	1.000174
15000.0	574.0	-8.5	-30.1	15.4	755.3	633.9	237.2		66.2	1.000171
15500.0	562.8	-9.8	-31.2	15.5	744.3	632.3	237.4		66.7	1.000168
16000.0	551.6	-11.3	-31.5	16.7	733.6	630.6	236.9		67.0	1.000166
16500.0	540.7	-12.7	-32.0	18.0	723.0	628.8	236.1		67.4	1.000163
17000.0	530.0	-14.1	-32.5	19.3	712.6	627.1	237.1		67.5	1.000161
17500.0	519.5	-15.6	-33.0	20.6	702.4	625.3	237.9		67.6	1.000159
18000.0	509.2	-17.0	-33.7	21.8	692.3	623.6	238.4		67.2	1.000156
18500.0	499.1	-18.4	-34.2	23.3	682.4	621.9	238.8		67.0	1.000154
19000.0	489.0	-19.7	-33.9	26.8	671.9	620.3	238.6		68.3	1.000152
19500.0	479.0	-21.0	-33.8	30.2	661.5	618.7	238.3		69.3	1.000149
20000.0	469.3	-22.2	-33.8	33.8	651.3	617.2	237.9		69.8	1.000147
20500.0	459.7	-23.3	-33.5	38.3	640.8	615.8	237.5		71.5	1.000145
21000.0	450.1	-24.5	-34.8	37.4	630.4	614.4	237.1		74.0	1.000142
21500.0	440.7	-25.7	-36.4	35.6	620.1	613.0	237.6		77.7	1.000140
22000.0	431.5	-26.8	-38.0	33.7	610.1	611.5	238.1		81.5	1.000137
22500.0	422.5	-28.0	-39.5	31.8	600.2	610.0	240.4		79.3	1.000135
23000.0	413.7	-29.1	-41.2	30.0	590.5	608.6	242.9		77.2	1.000133
23500.0	405.0	-30.3	-42.8	28.1	580.9	607.1	247.5		74.0	1.000130

50

UPPER AIR DATA

0480210007

RITA

STATION ALTITUDE 4126.74 FEET MSL

17 FEB. 84 0715 WRS MST

ASCENSION NO. 7

GEODETIC COORDINATES

33.18295 LAT DEG

106.15114 LON DEG

TABLE 5 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE					DIRECTION DEGREES(TM)	SPEED KNOTS	
24000.0	396.5	-31.3	-44.6	25.4	571.0	605.9		246.7	90.5	1.000128
24500.0	398.1	-32.4	-46.7	22.2	561.5	604.5		246.2	95.6	1.000126
25000.0	379.7	-33.7	-48.0	22.0	552.5	602.8		249.6	73.4	1.000124
25500.0	371.5	-35.0	-49.1	22.0	543.5	601.2		251.1	70.0	1.000122
26000.0	363.5	-36.3	-50.2	22.0	534.7	599.6				1.000119
26500.0	355.7	-37.4	-51.2	21.8	525.5	598.2				1.000117
27000.0	347.9	-37.7	-51.8	21.0	516.8	597.8				1.000115

STATION ALTITUDE 6126.74 FEET MSL
17 FEB. 84 0715 MRS MST
ASCENSION NO. 7

MANDATORY LEVELS
0480210007
DATA

TABLE 6

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
250.0	4639.	10.3	-12.1	19.	189.0	12.3
300.0	6292.	9.2	-12.3	20.	206.0	28.9
750.0	8031.	4.6	-15.4	22.	211.4	29.7
700.0	9858.	-3	-18.9	23.	228.8	43.5
650.0	11791.	-3.4	-23.6	19.	229.4	60.4
600.0	13853.	-7.1	-23.1	26.	234.6	63.7
550.0	16065.	-11.5	-31.6	17.	234.8	67.1
500.0	18431.	-18.3	-34.2	23.	238.9	66.9
450.0	20980.	-24.5	-34.8	37.	237.1	74.0
400.0	23754.	-31.0	-43.8	27.	247.2	83.3
350.0	26820.	-37.6	-51.6	21.		

STATION ALTITUDE 4173.44 FEET "SL
17 FEB. 84 U730 WRS MST
ASCENSION NO. 7

SIGNIFICANT LEVEL DATA
0400320007
LAWA

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

TABLE 7

PRESSURE GEOMETRIC ALTITUDE MILLIBAR MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	
64.3	9.2	-9.3	26.0
55.0	10.9	-10.5	21.0
30.9	11.6	-10.0	21.0
784.9	8.3	-12.1	22.0
700.0	.1	-18.0	24.0
432.4	-4.7	-24.7	19.0
17.7	-5.8	-19.8	32.0
18.7	-6.6	-28.2	16.0
80.0	-7.2	-28.0	17.0
529.5	-13.9	-32.4	19.0
500.0	-17.5	-33.1	24.0
450.1	-24.1	-33.1	43.0
415.0	-28.7	-39.6	34.0
400.0	-30.7	-42.5	30.0
195.3	-31.8	-43.8	29.0
156.2	-33.0	-45.2	28.0

STATION ALTITUDE 4173.44 FEET FSL
17 DEG. 54'
ASCENSION NO. 7

UPPER AIR DATA
0480320007
LAMA

GEODETIC COORDINATES
33-33510 LAT DEG
106-15446 LONG DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ MFR	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4173.4	866.3	9.2	26.0	1865.0	655.1	180.0	7.0	1.000252
4500.0	854.0	10.4	22.4	1847.8	656.4	191.7	10.7	1.000247
5000.0	828.5	11.3	21.0	1825.6	657.5	199.1	16.8	1.000242
5500.0	823.3	11.1	21.2	1807.9	657.2	202.6	23.1	1.000238
6000.0	802.4	10.0	21.5	997.3	656.0	204.5	29.4	1.000234
6500.0	793.7	8.5	21.8	979.0	654.7	206.1	31.5	1.000230
7000.0	779.2	7.8	22.1	965.1	653.3	207.7	32.1	1.000226
7500.0	764.7	6.4	22.5	951.8	651.8	210.0	33.0	1.000223
8000.0	750.5	5.1	22.8	938.7	650.2	212.6	34.0	1.000219
8500.0	736.6	3.2	23.1	925.8	648.6	215.7	35.9	1.000215
9000.0	723.0	2.4	23.4	913.1	647.0	218.8	38.5	1.000212
9500.0	709.5	1.1	23.8	900.6	645.4	221.9	42.1	1.000209
10000.0	696.3	-2.2	23.7	887.8	643.9	224.9	46.3	1.000205
10500.0	683.1	-1.1	22.8	873.9	642.8	226.7	51.4	1.000201
11000.0	670.1	-2.0	21.9	860.3	641.8	227.7	57.0	1.000198
11500.0	657.4	-2.9	20.9	846.8	640.7	227.7	61.5	1.000194
12000.0	644.9	-3.8	20.0	833.6	639.6	227.2	65.2	1.000190
12500.0	632.7	-4.7	19.0	820.5	638.5	227.7	67.8	1.000187
13000.0	620.5	-5.6	29.5	807.3	637.5	229.0	69.2	1.000184
13500.0	608.6	-6.0	27.1	793.2	636.9	230.4	70.2	1.000182
14000.0	596.9	-6.4	26.6	779.0	636.5	232.0	70.6	1.000178
14500.0	585.4	-6.6	26.4	765.4	635.9	233.1	71.0	1.000174
15000.0	574.0	-8.3	17.2	753.7	634.5	233.7	71.3	1.000171
15500.0	562.7	-9.4	17.7	743.1	632.8	234.1	71.7	1.000168
16000.0	551.7	-10.9	18.1	732.6	631.0	234.4	72.1	1.000166
16500.0	540.9	-12.3	18.5	722.3	629.3	234.6	72.7	1.000163
17000.0	530.3	-13.8	19.0	712.1	627.5	234.9	74.1	1.000161
17500.0	519.6	-15.1	20.6	701.4	625.9	235.1	75.4	1.000158
18000.0	509.4	-16.3	22.4	690.8	624.4	235.9	75.0	1.000156
18500.0	499.2	-17.6	24.3	680.3	622.9	236.7	74.7	1.000154
19000.0	489.1	-18.9	28.0	669.9	621.3	236.9	74.0	1.000151
19500.0	479.1	-20.2	31.7	659.6	619.7	236.9	74.3	1.000149
20000.0	469.3	-21.5	35.4	649.5	618.1	236.3	76.5	1.000147
20500.0	459.8	-22.8	39.1	639.5	616.6	235.8	78.8	1.000145
21000.0	450.4	-24.1	42.9	629.7	615.0	235.4	81.1	1.000143
21500.0	441.1	-25.2	46.8	619.6	613.5	236.2	81.8	1.000140
22000.0	431.9	-26.4	38.4	609.7	612.0	237.7	82.2	1.000137
22500.0	422.9	-27.6	36.1	599.9	610.5	240.2	81.9	1.000135
23000.0	414.1	-28.8	33.8	590.3	609.0	242.5	85.1	1.000133
23500.0	405.4	-30.0	31.4	580.6	607.6			1.000130

STATION ALTITUDE 4173.44 FEET MSL
 17 FEB. 84 0730 LRS MST
 ASCENSION NO. 7

UPPER AIR DATA
 0480320007
 LAMA

GEODETIC COORDINATES
 33.13510 LAT DEG
 106.15446 LON DEG

TABLE 8 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	396.8	-31.4	-43.4	571.8	605.7			1.000128
24500.0	388.3	-32.7	-44.9	562.6	604.1			1.000126

STATION ALTITUDE 4173.44 FEET "SL"
 17 FEB. 84 0730 HRS MST
 ASCENSION NO. 7

MANDATORY LEVELS
 0400320007
 LAMA

TABLE 9

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT DEGREES	PERCENT	DIRECTION DEGREES(TM)	SPEED KNOTS	
851.0	4625.	10.9	-10.5	21.	194.3	12.3	
800.0	6282.	9.4	-11.4	22.	205.4	31.2	
750.0	8021.	5.0	-14.4	23.	212.7	34.0	
700.0	9851.	.1	-18.0	24.	224.1	45.1	
650.0	11781.	-3.4	-22.9	20.	227.4	63.7	
600.0	13951.	-6.3	-24.3	22.	231.6	70.5	
550.0	16067.	-11.1	-30.6	18.	234.4	72.2	
500.0	18437.	-17.5	-33.1	24.	236.6	74.7	
450.0	20993.	-24.1	-33.1	43.	235.4	81.1	
400.0	23775.	-30.7	-42.5	30.			

GEODETIC COORDINATES
 33.13510 LAT DEG
 106.15446 LON DEG

STATION ALTITUDE 4186.74 FEET FSL
17 FEB. 84
ASCENSION NO. 8

SIGNIFICANT LEVEL DATA
0480210008
QITA

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

TABLE 10

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
64.3	4186.7	14.3	-9.0	19.0
50.0	4666.9	12.2	-9.4	21.0
790.9	6610.3	7.3	-10.9	26.0
740.5	8377.0	3.4	-12.9	29.0
700.0	9863.7	-9	-14.7	34.0
66.0	11239.7	-4.3	-17.8	34.0
67.4	11694.9	-4.7	-18.5	33.0
69.1	12228.2	-5.4	-17.8	37.0
619.5	13032.1	-5.0	-26.2	17.0
693.4	14140.3	-6.5	-28.8	15.0
60.9	15576.1	-10.5	-32.1	15.0
600.0	18440.7	-18.3	-34.7	22.0
676.0	19641.1	-21.4	-35.0	28.0
662.5	20338.2	-21.9	-15.8	27.0
628.8	22152.3	-26.7	-40.3	26.0
625.8	22319.8	-24.3	-39.8	22.0
623.5	22449.5	-25.0	-40.9	21.0
600.0	23803.4	-29.1	-44.4	21.0
59.4	26348.3	-36.3	-50.2	22.0
64.4	27252.9	-39.0	-52.5	22.0

STATION ALTITUDE 4126.74 FEET MSL
17 FEB. 84
ASCENSION NO. 8

UPPER AIR DATA
040020000
RITA

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LONG DEG

TABLE 11

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND METER	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
4186.7	864.3	14.3	19.0	1046.0	661.0	180.0	15.0	1.000247
4500.0	854.5	12.9	20.4	1039.4	659.3	189.2	15.6	1.000246
5000.0	835.1	11.3	21.9	1026.2	657.5	201.9	17.4	1.000242
5500.0	823.8	10.1	23.2	1012.0	656.1	211.9	19.8	1.000239
6000.0	806.8	8.8	24.4	998.0	654.6	219.5	22.7	1.000236
6500.0	794.1	7.6	25.7	984.2	653.1	221.6	25.3	1.000232
7000.0	779.5	6.4	26.7	970.0	651.8	219.2	27.4	1.000229
7500.0	765.1	5.3	27.5	955.9	650.5	215.5	26.9	1.000225
8000.0	751.0	4.2	28.4	942.0	649.2	211.1	25.7	1.000221
8500.0	737.1	3.0	29.4	928.6	647.8	211.1	27.4	1.000218
9000.0	723.3	1.6	31.1	916.0	646.1	211.3	29.2	1.000215
9500.0	709.7	.2	32.8	903.6	644.4	213.7	33.8	1.000212
10000.0	696.3	-1.4	34.0	891.2	642.7	216.0	37.8	1.000208
10500.0	683.1	-2.5	34.0	878.3	641.3	219.2	40.3	1.000205
11000.0	670.1	-3.7	34.0	865.7	639.8	223.0	43.3	1.000201
11500.0	657.4	-4.5	33.6	851.6	638.9	226.4	51.9	1.000197
12000.0	644.8	-4.9	34.3	836.7	638.3	229.0	58.6	1.000194
12500.0	632.4	-5.3	30.2	821.8	637.9	231.2	63.9	1.000190
13000.0	620.3	-5.0	17.8	805.5	638.1	233.5	65.9	1.000183
13500.0	608.3	-5.6	16.2	791.9	637.3	235.4	65.0	1.000180
14000.0	596.6	-6.3	15.3	778.7	636.5	237.1	62.3	1.000177
14500.0	585.1	-7.5	15.0	767.0	635.1	237.7	64.1	1.000174
15000.0	573.7	-8.9	15.0	756.1	633.4	237.1	67.1	1.000171
15500.0	562.6	-10.3	15.0	745.4	631.7	240.0	73.2	1.000168
16000.0	551.4	-11.7	16.0	734.4	630.1	242.3	78.8	1.000166
16500.0	540.5	-13.0	17.3	723.6	628.4	241.4	73.8	1.000163
17000.0	529.8	-14.4	18.5	713.0	626.8	240.1	73.0	1.000161
17500.0	519.2	-15.7	19.7	702.5	625.1	236.3	71.3	1.000159
18000.0	508.9	-17.1	20.9	692.2	623.5	235.2	72.8	1.000156
18500.0	498.8	-18.5	22.3	682.1	621.8	236.9	77.4	1.000154
19000.0	488.7	-19.7	24.8	671.6	620.2	237.5	79.4	1.000151
19500.0	478.8	-21.0	27.3	661.4	618.7	238.2	80.1	1.000149
20000.0	469.0	-21.7	27.5	649.5	617.9	239.4	78.8	1.000146
20500.0	459.4	-22.3	26.9	637.9	617.1	241.1	75.4	1.000144
21000.0	449.9	-23.7	26.6	626.1	615.4	243.2	72.6	1.000141
21500.0	440.4	-25.0	26.4	618.4	613.8	243.8	84.6	1.000139
22000.0	431.5	-26.3	26.1	607.9	612.1	241.6	117.4	1.000137
22500.0	422.6	-25.2	21.0	593.5	613.5	241.4	128.0	1.000133
23000.0	413.8	-26.7	21.0	584.7	611.7	244.6	93.3	1.000131
23500.0	405.2	-28.2	21.0	576.1	609.8	245.9	88.2	1.000129

UPPER AIR DATA
0400210000
PITA

STATION ALTITUDE 4126.74 FEET MSL
17 FEB. 84 0917 LMS MST
ASCENSION NO. 8

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LONG DEG

TABLE 11 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND METERS PER SECOND	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	396.6	-29.7	21.1	567.4	607.9	246.6	88.9	1.000127
24500.0	388.2	-31.1	21.3	558.5	606.2	246.0	97.3	1.000125
25000.0	379.9	-32.5	21.5	549.8	604.4	245.6	105.7	1.000123
25500.0	371.8	-33.9	21.7	541.3	602.6	245.6	109.6	1.000121
26000.0	363.8	-35.3	21.9	532.9	600.8	246.1	107.8	1.000119
26500.0	356.0	-36.8	22.0	524.6	599.0			1.000117
27000.0	348.3	-38.2	22.0	516.4	597.1			1.000115

STATION ALTITUDE 4184.74 FEET "SL
17 FEB. 84
ASCENSION NO. 8

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

MANDATORY LEVELS
0480210008
QTYA

TABLE 12

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT		DIRECTION DEGREES(TN)	SPEED KNOTS
857.0	4644.	12.2	-9.4	21.	193.1	16.0
807.0	6296.	8.1	-10.6	25.	222.7	24.5
757.0	8030.	4.2	-12.5	28.	211.1	25.8
707.0	9855.	-0.9	-14.7	34.	215.1	37.1
657.0	11780.	-4.6	-18.4	33.	227.9	55.7
607.0	13841.	-6.1	-28.1	16.	236.6	63.1
557.0	16052.	-11.8	-32.4	16.	242.2	78.4
507.0	18416.	-18.3	-34.7	22.	236.7	76.8
457.0	20969.	-23.6	-37.4	27.	243.1	72.5
407.0	23766.	-29.1	-44.4	21.	246.4	87.9
357.0	26842.	-37.9	-51.6	22.		

STATION ALTITUDE 4173.44 FEET MSL
17 FEB. 84
ASCENSION NO. 8

SIGNIFICANT LEVEL DATA

0480320008

LAWA

TABLE 13

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
266.3	14.1	-9.1	19.0
950.0	12.1	-10.1	20.0
29.3	10.0	-11.3	21.0
700.0	-1.3	-15.8	32.0
632.1	-6.2	-18.8	36.0
614.9	-5.9	-27.6	16.0
406.3	-5.9	-28.3	15.0
77.8	-8.9	-31.5	14.0
500.0	-18.8	-35.6	21.0
483.6	-20.8	-35.2	26.0
457.1	-23.0	-37.5	25.0
423.9	-28.1	-41.9	25.0
400.0	-30.6	-44.9	23.0
383.8	-32.6	-46.6	23.0
177.1	-33.8	-48.0	22.0
152.6	-37.7	-51.4	22.0

STATION ALTITUDE 4173.44 FEET MSL
17 FEB. 84 0917 MRS MST
ASCENSION NO. 8

UPPER AIR DATA
0480320008
LAMA

GEOMETRIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

TABLE 14

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DWPPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
4173.4	864.3	14.1	-9.1	19.0	1046.8	660.7	210.0	12.0	1.000247
4500.0	854.1	12.7	-9.9	19.7	1039.7	659.1	213.2	14.2	1.000245
5000.0	838.7	11.0	-10.8	20.5	1027.1	657.1	216.6	17.6	1.000241
5500.0	823.4	9.5	-11.4	21.5	1013.5	655.4	218.9	21.1	1.000238
6000.0	808.1	8.3	-11.8	22.7	999.2	653.9	220.5	24.5	1.000234
6500.0	793.1	7.0	-12.2	23.9	985.0	652.5	220.2	26.0	1.000231
7000.0	778.4	5.8	-12.6	25.1	971.1	651.0	218.9	26.4	1.000228
7500.0	764.0	4.5	-13.1	26.3	957.4	649.5	217.4	26.9	1.000224
8000.0	749.8	3.3	-13.6	27.5	943.9	648.1	215.9	27.5	1.000221
8500.0	735.9	2.0	-14.2	28.8	930.7	646.6	216.3	29.0	1.000217
9000.0	722.3	.8	-14.8	30.0	917.6	645.1	217.0	30.8	1.000214
9500.0	708.9	-.5	-15.4	31.2	904.8	643.6	217.9	33.1	1.000211
10000.0	695.7	-1.6	-16.0	32.2	891.6	642.3	218.6	35.4	1.000208
10500.0	682.4	-2.5	-16.5	33.0	877.6	641.2	220.3	41.0	1.000204
11000.0	669.4	-3.4	-17.1	33.8	863.8	640.1	221.8	46.8	1.000201
11500.0	656.6	-4.4	-17.7	34.5	850.3	639.0	224.3	53.7	1.000197
12000.0	644.1	-5.3	-18.2	35.3	836.9	637.9	226.2	60.7	1.000194
12500.0	631.8	-6.2	-18.9	35.6	823.7	636.8	228.7	66.5	1.000191
13000.0	619.6	-6.0	-24.4	21.5	807.5	636.9	230.9	72.4	1.000184
13500.0	607.7	-5.9	-28.2	15.2	791.8	637.0	232.4	74.4	1.000180
14000.0	595.9	-7.0	-29.4	14.6	779.7	635.7	233.9	75.8	1.000177
14500.0	584.4	-8.2	-30.7	14.2	768.1	634.2	234.9	75.0	1.000174
15000.0	573.0	-9.5	-31.6	14.4	756.8	632.7	235.8	73.3	1.000171
15500.0	561.6	-10.8	-32.1	15.4	745.7	631.0	236.3	73.2	1.000168
16000.0	550.5	-12.2	-32.6	16.3	734.7	629.4	236.5	75.0	1.000166
16500.0	539.6	-13.6	-33.1	17.3	724.0	627.7	236.4	77.1	1.000163
17000.0	528.9	-15.0	-33.7	18.3	713.4	626.1	236.0	79.8	1.000161
17500.0	518.4	-16.3	-34.4	19.3	703.0	624.4	235.6	82.5	1.000158
18000.0	508.1	-17.7	-35.0	20.2	692.8	622.7	235.3	84.6	1.000156
18500.0	498.0	-19.0	-35.5	21.6	682.6	621.1	234.9	86.7	1.000154
19000.0	487.9	-20.3	-35.2	24.7	672.0	619.6	235.2	90.6	1.000151
19500.0	478.0	-21.3	-35.7	25.8	660.9	618.4	235.4	94.4	1.000149
20000.0	468.2	-22.1	-36.5	25.4	649.5	617.4	236.4	95.9	1.000146
20500.0	458.6	-22.9	-37.3	25.1	638.2	616.4	237.5	97.2	1.000144
21000.0	449.1	-24.2	-38.5	25.0	628.4	614.8	238.9	97.3	1.000141
21500.0	439.8	-25.6	-39.8	25.0	618.9	613.0	240.5	97.1	1.000139
22000.0	430.7	-27.0	-41.0	25.0	609.5	611.2	241.3	98.1	1.000137
22500.0	421.7	-28.3	-42.2	24.8	600.0	609.6	242.0	99.4	1.000135
23000.0	412.9	-29.2	-43.3	24.1	589.6	608.5	241.9	104.4	1.000132
23500.0	404.2	-30.2	-44.3	23.4	579.4	607.3	241.7	110.6	1.000130

STATION ALTITUDE 4173.44 FEET MSL
17 FEB. 84 0917 HRS MST
ASCENSION NO. 8

UPPER AIR DATA

0480320008
LANA

TABLE 14 Con't

GEODETIC COORDINATES
33.13510 LAT DEG
106.15666 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	395.6	-31.1	-45.3	23.0	569.4	606.1		241.6	118.2	1.000127
24500.0	387.2	-32.2	-46.2	23.0	559.7	604.8		241.0	142.0	1.000125
25000.0	378.9	-33.5	-47.6	22.3	550.7	603.2		240.5	174.3	1.000123
25500.0	370.8	-34.8	-48.9	22.0	541.8	601.5		241.2	176.2	1.000121
26000.0	362.8	-36.1	-50.0	22.0	533.0	599.9				1.000119
26500.0	354.9	-37.3	-51.1	22.0	524.2	598.3				1.000117

STATION ALTITUDE 4173.44 FEET MSL
17 FEB. 84 0917 MRS MST
ASCENSION NO. 8

MANDATORY LEVELS
0480320008
LAMA

TABLE 15

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4630.	12.1	-10.1	20.	214.2	15.1
800.0	6280.	7.6	-12.0	23.	220.7	25.9
750.0	8010.	3.3	-13.4	28.	215.9	27.5
700.0	9829.	-1.3	-15.8	32.	218.4	34.6
650.0	11755.	-4.9	-18.0	35.	225.3	57.4
600.0	13812.	-6.6	-29.0	15.	233.4	75.3
550.0	16018.	-12.3	-32.6	16.	236.5	75.1
500.0	18378.	-18.8	-35.6	21.	235.0	86.3
450.0	20927.	-24.1	-38.4	25.	238.8	97.3
400.0	23706.	-30.6	-44.9	23.	241.6	114.1

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

END

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